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Putting Canada First

AN ARCHITECTURE FOR AGRICULTURAL POLICY IN THE 21ST CENTURY

Le Canada en tête

UN CADRE POUR LA POLITIQUE AGRICOLE AU XXI^E SIÈCLE

A federal-provincial-territorial initiative
Une initiative fédérale-provinciale-territoriale



Putting Canada First

AN ARCHITECTURE FOR AGRICULTURAL
POLICY IN THE 21ST CENTURY

THE AGRICULTURE AND AGRI-FOOD
SECTOR IS VITAL TO CANADA'S ECONOMIC
SUCCESS AND A KEY CONTRIBUTOR TO
THE HIGH QUALITY OF LIFE ENJOYED BY
CITIZENS ACROSS THE COUNTRY.

An Overview

The Government of Canada and the provincial and territorial governments are working with the agriculture and agri-food industry and interested Canadians to develop an architecture for agricultural policy for the 21st century. The objective is for Canada to be the world leader in food safety, innovation and environmentally-responsible production.

To realize this vision, governments have agreed in principle on an action plan for an agricultural policy framework composed of five elements: food safety and food quality, environment, science and innovation, renewal, and business risk management. The framework, which is based on the setting of common goals for each element, entails important benefits for the sector and ultimately the general public.

*Accordingly, governments have launched a national dialogue about the policy direction with stakeholders and interested Canadians to develop the proposed policy approach. This **consultation** document is one of a series of publications dedicated to that end. To obtain additional information and contribute to this important dialogue, visit www.agr.gc.ca/puttingcanadafirst or call 1 800 O-Canada (1 800 622-6232).*

The Current Situation— Challenges and Opportunities for Continued Prosperity

Canada's agriculture and agri-food sector is a key contributor to the high quality of life enjoyed by citizens across the country. It is also vital to our economic success, currently producing some eight per cent of our gross domestic product, and accounting for one in seven jobs nation-wide.

Global agriculture has experienced a radical transformation in the latter half of the 20th century and the pace of change will quicken in the years to come. Advances in technology and productivity improvements have led to a sustained, long-term decline in most commodity prices. Increased international competition has contributed to this decline, particularly in recent years.

Domestic support payments, particularly those in the United States and the European Union, also lower prices. More importantly, increased international competition will continue to push prices down, regardless of the level of government support. For example, in several major commodities, such as oilseeds, low-cost countries are expanding production and capturing global market share with low levels of government support.

To be successful in this environment, we must act to brand Canada as the world leader in food safety, innovation and environmentally-responsible production. It is no longer enough to be merely good in these areas. We must be the best and we must be the first. And we must work towards ensuring that the words "produced in Canada" are synonymous with excellence worldwide. Success will also be determined by the ability of governments and the industry to both adapt to and exploit today's market realities. While initiatives to these ends have been undertaken in several areas, it has not

been done comprehensively across the country as is envisioned under the proposed Agricultural Policy Framework (APF).

While the full implementation of the proposed APF would take several years, it is critical to move forward now so Canada can capture the benefits and opportunities that will go to the nation that moves first. It would also be important to ensure that the development and implementation of the framework complements efforts in other areas such as international trade negotiations.

A Framework for Success

In June 2001, the federal, provincial and territorial Ministers of Agriculture pledged to meet today's challenges by jointly developing "an agriculture policy that is comprehensive, integrated and ensures that farmers have the tools to address issues, be competitive and capture opportunities in the areas of science, food safety and environmental stewardship."

The goal of this policy is to foster an economic and social advantage for Canada to help ensure Canadian producers and agri-food companies not only meet these challenges, but capture the opportunities they present for continued prosperity.

To realize this shared vision, Ministers of Agriculture agreed that as they support the sector, their actions must follow certain principles:

- Approaches to policies and programs will be developed with input from industry and all other stakeholders.
- Governments will set common goals to secure the benefits of a consistent approach, recognizing the need for flexibility in how these goals will be reached.
- Governments will report to citizens regularly on their progress, in a consistent fashion across Canada.
- Funding for each main element of the framework will be stable and long-term.



Food Safety and Food Quality



Food safety has always been important to consumers, but recent high-profile events around the world have raised their awareness and expectations. In addition to food safety, consumers are increasingly knowledgeable and discerning in their food purchases and are demanding greater choice.

Many suppliers are developing systems that demonstrate to both existing and potential customers that their products meet the specifications demanded by consumers. At the same time, these suppliers are taking advantage of changing consumer preferences to gain new markets and develop niche markets with potential price premiums.

The proposed APF aims to build on these efforts and encourage all producers to take similar action. This will solidify Canada's reputation as a producer of safe, high-quality food. The objective is to protect human health by reducing exposure to food-borne hazards; increase consumer confidence in the safety and quality of foods sold in Canada and/or exported; and increase the sector's ability to meet or exceed market specifications for safety and quality.

The development of the proposed APF requires a set of common goals. Among the goals being considered for food safety and food quality are:

- to adopt recognized food safety and quality systems throughout the food continuum;
- to put in place comprehensive tracking and tracing systems throughout the food continuum in order to increase our capacity for targeted, effective responses to potential disease or contamination outbreaks, and to meet consumer preferences and commercial requirements; and
- to share critical food safety and surveillance information among governments.

Environment



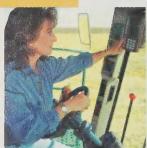
Agriculture's long-term prosperity depends on its ability to co-exist sustainably with the natural environment. Farmers understand this well. However, agriculture has undergone significant change in recent years in response to evolving market demands, new production technologies, and a shift towards larger, more intensive operations. While the full effects of these changes on the environment are not fully understood, recent studies show that some key pressures arising from agriculture, such as nutrient surpluses and emissions of greenhouse gases, have been increasing.

At the same time, public awareness and concern about these issues is growing. Canadians expect all economic sectors, including agriculture, to do their part to protect the environment. Canadian farmers recognize their responsibility as environmental stewards and are taking proactive measures.

The proposed Agricultural Policy Framework is being designed to achieve concrete improvement in the quality of the environment through coordinated action on all farms. The framework should increase and improve the use of environmental planning tools and management systems, enhance efficiency and performance, and secure the long-term sustainability of producers' operations. A better understanding of how agriculture and the environment interact, combined with improved systems, practices and technologies, would help improve the quality of our water, soil and air, and in biodiversity.

The development of the proposed APF requires a set of common goals. Among the goals being considered for environment are:

- to reduce water contamination from nutrients, pathogens and pesticides;
- to reduce agricultural risks to soil health and reduce soil erosion;
- to reduce particulate emissions, odours and greenhouse gases; and
- to ensure compatibility between biodiversity and agriculture.



Renewal

Traditionally, many of the skills needed to operate a farm were passed from generation to generation in what was, in effect, an informal apprenticeship. This method, complemented by some ongoing learning, worked reasonably well in the past.

However, farm operations have become larger and more complex. Today's farmers need, and many are increasingly making, a lifelong commitment to ongoing learning and to mastering innovative technologies, products and practices. As their operations grow, farmers are expending more effort to manage financial and human resources and to make strategic decisions on both long-term directions and immediate issues. To deal with rising market demands around environmental and food safety, they may also need to upgrade and combine their technical and management skills. And the quickening pace of change means that many farm businesses must be re-tooled, which involves major decisions about accessing capital and using it wisely.

The aim of renewal within the proposed Agricultural Policy Framework would be to help all farmers—new and established—assess their situations and options, and acquire the skills and resources needed for success in 21st century agriculture.

The development of the proposed APF requires a set of common goals. Among the goals being considered for renewal are:

- to enable beginning farmers to acquire the skills and expertise to manage their business and adapt to evolving consumer preferences and new scientific advances;

- to engage farmers in the continuous upgrading of the skills needed to farm in an evolving sector;
- to provide farmers with the strategic management skills they need to make their farms as profitable as possible; and
- to provide farmers with access to a wide range of choices to enhance their future quality of life.

Science and Innovation



Science and technology has profoundly changed the agriculture and agri-food sector. Today's rapid pace of scientific discovery, and technological advances is increasing the opportunities presented by the bioeconomy. These developments are leading to greater convergence between once distinct businesses, from agriculture and food to chemicals to health care and pharmaceuticals.

This convergence of disciplines and the accelerated pace of research has the potential to create new products and farming practices. New innovations should help to increase income through the diversification of farm businesses, move consumption from non-renewable to renewable resources, address environmental concerns, and protect human health through improvements in food safety.

To remain as a world leader, the agriculture and agri-food sector must remain at the forefront of science and innovation. The Agricultural Policy Framework aims to capitalize on Canada's research and innovation potential to create economic opportunities for the sector and make significant progress towards the priorities of Canadians—including environmental stewardship and food safety. The development of the proposed APF, requires a set of common goals. Among the goals being considered for science and innovation are to support and increase:

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Government Publications



Overview of the Canadian Agriculture and Agri-Food Sector

The Government of Canada and the provincial and territorial governments are developing a new direction for Canada's agricultural policy. The objective is to create a stronger and more commercially successful sector by being the world leader in food safety, innovation and environmentally-responsible production. This brief graphical overview provides background information about Canada's agriculture and agri-food system and its key sectors.

Agri-food is a major part of the Canadian economy

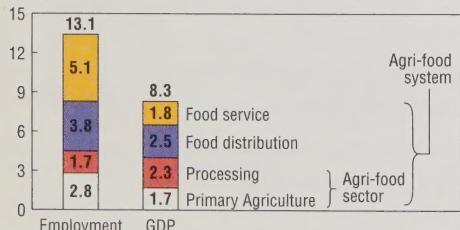
The agri-food system is an integrated complex production chain which ranges from the primary agriculture sector to the food and beverage services sector.

It is a key driver of the Canadian economy, providing one in seven jobs across the country.

The agri-food sector accounted for 8.3 per cent of the total Canadian Gross Domestic Product (GDP) in 2000.

Agri-Food's Contribution to the Canadian Economy

% Share



Note: GDP for 2000, Employment 1999.
Source: Statistics Canada, with AAFC Estimates.

Value-added production is driving growth in the agri-food system

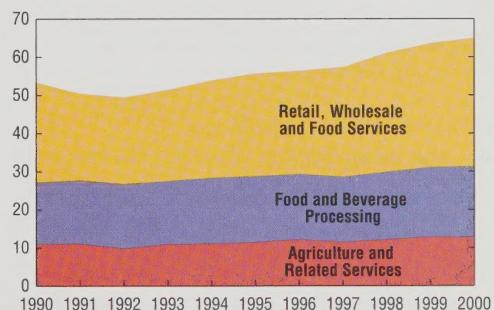
The growth in the agri-food system over the 1990s has been primarily driven by value-added production.

The retail, wholesale and food services sectors are the fastest growing component of the system.

The overall system is growing in size at a pace slightly less than that of the economy but its share of GDP has been relatively stable.

Agri-Food System GDP by Sector

Billions of \$



Source: Statistics Canada, Special Surveys Division.

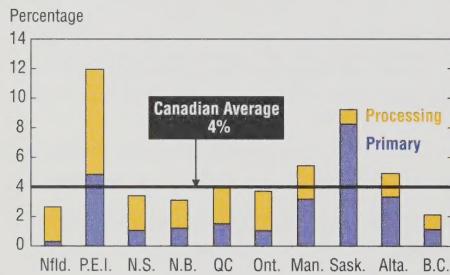
The importance of the agri-food sector varies across the country

The size of the agri-food sector (primary and processing) varies across Canada, with the relative size of the sector in Prince Edward Island and Saskatchewan more than double the national average.

The mix between primary and processing also varies. East of Manitoba, the processing sector accounts for the majority of the agri-food sector's share of provincial GDP. In contrast, in the Prairies, the primary sector plays a more important role.

Food processing is the largest manufacturing sector in seven provinces (it represents the second largest manufacturing sector in Ontario and the third largest in British Columbia and New Brunswick). It accounts for 10 per cent of the share of total manufacturing shipments in Canada.

Agri-Food Sector Share of Total Provincial GDP, 1999



Source: Conference Board of Canada.

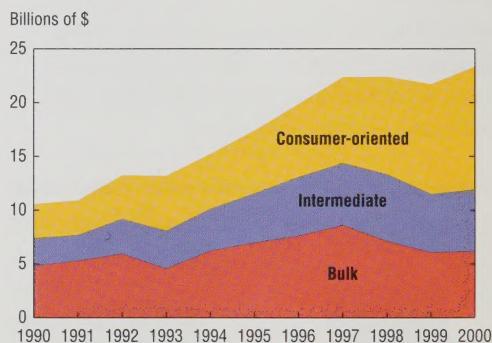
Consumer-oriented products are driving export growth

The agriculture and agri-food sector is export-oriented—in 1999, 47 per cent of total primary production was exported directly or indirectly, in the form of processed goods. The sector contributes \$5–\$7 billion to Canada's trade balance annually, accounting for 10 per cent of the total Canadian trade surplus in 2000.

Agri-food exports have doubled over the past decade and value-added goods accounted for two-thirds of this increase. Today, one-half of all exports are consumer-oriented.

In 1999, Canada was the world's third largest exporter of agri-food products, after the US and EU, accounting for 3.5 per cent of world exports.

Agri-Food Exports



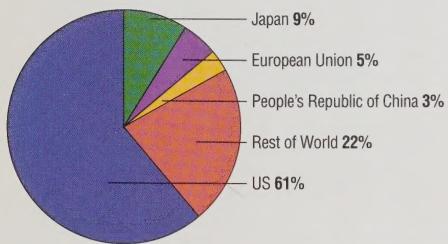
Source: Statistics Canada, International Merchandise Trade Database and Industry Canada, Strategic Trade Database.

And a large percentage of exports are going to the US

Canada's exports to the US increased dramatically in recent years and accounted for over 60 per cent of Canada's agri-food exports in 2000. The US is particularly important for consumer-oriented and intermediate exports, as 76 per cent of these exports are destined for the US market.

Nevertheless, the agri-food sector is less dependent on the US market than the economy as a whole (87 per cent of total Canadian exports are destined for the US).

Destination of Canadian Agri-Food Exports, 2000



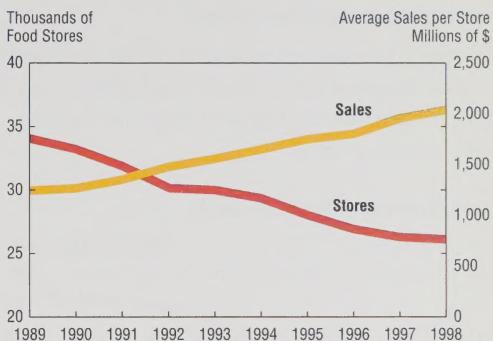
Source: Statistics Canada, Merchandise Trade Database.

Consolidation is happening across the entire agri-food system

There is a general trend toward an increasing scale of operation across the agri-food system. Food stores in Canada are consolidating and average sales per store are increasing over time.

While establishments are getting larger on average, the number of small specialized enterprises which focus on meeting niche markets has also increased.

Number of Food Stores* and Average Sales



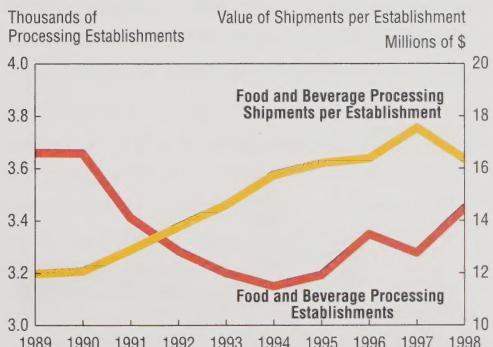
* Food Stores not included are department stores and specialty stores.

Source: Canadian Grocer.

In the food and beverage processing sector, the trend toward consolidation has slowed in recent years, as the number of establishments has increased.

The sector's average rate of return on long-term capital in the 1990s was 11.5 per cent. This is higher than the 7.3 per cent for the rest of the economy.

Number of Food and Beverage Processing Establishments and Value of Shipments

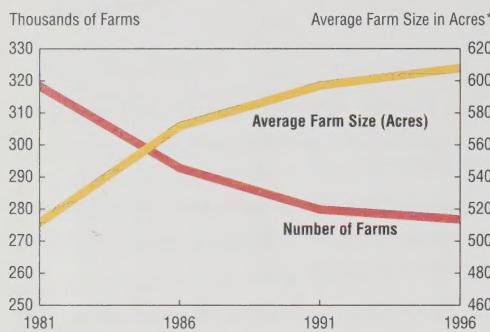


Source: Statistics Canada, CANSIM Matrix 5379 & 5401, Annual Survey of Manufacturers.

The trend toward consolidation is also occurring at the primary level

Advances in technology and farming practices have contributed to a consolidation of farms. Over time, there has been a trend towards significantly larger farms. Yet, 98 per cent of all farms are still family operations.

Evolution of Primary Agriculture in Canada



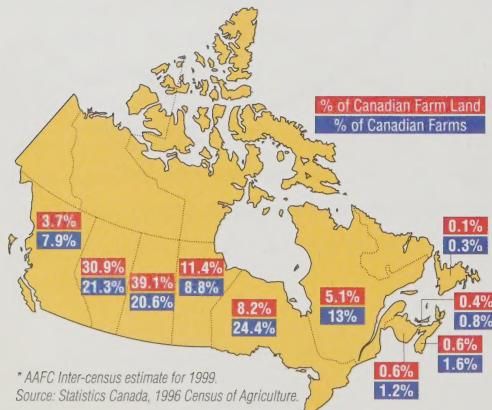
* 1 acre = 0.4047 hectares.

Source: Statistics Canada, *Historical Overview of Canadian Agriculture, Census of Agriculture 1996*.

There are 168 million acres of farmland in use across Canada: 61 per cent for cultivated land, 29 per cent for pasture land and 10 per cent for other uses. For cultivated land, there are variations in productivity across the country depending on soils and climate.

Farming in Canada

168 million acres in production across 270,000 farms*



* AAFC Inter-census estimate for 1999.

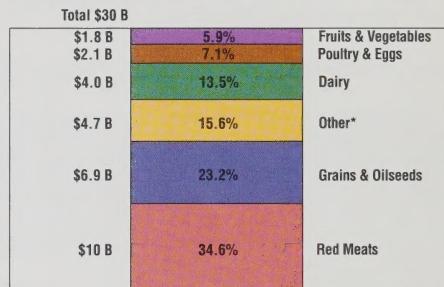
Source: Statistics Canada, 1996 Census of Agriculture.

Saskatchewan has the highest percentage of cultivated land and British Columbia has the highest percentage of pasture land.

Canada has a diverse primary agriculture sector

Red meats, grains and oilseeds, dairy, and poultry and eggs are the most important commodities in terms of their contribution to farm market receipts – \$23.0 billion (78.4 per cent).

Total Canadian Farm Market Receipts by Commodity, 2000



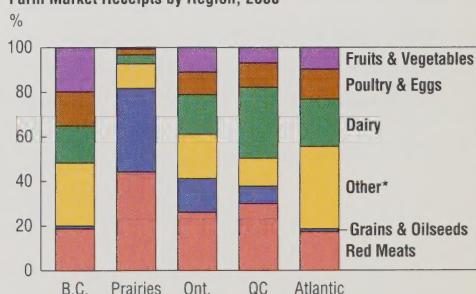
* Other includes mostly flora and nursery in B.C. and potatoes in Atlantic Canada.

Source: Statistics Canada, *Agriculture Economics Statistics*.

Production varies across Canada

The commodity mix varies across Canada. In British Columbia, farm cash receipts are balanced across a range of commodities, but the most important are fruits and vegetables, and flora and nursery products.

Farm Market Receipts by Region, 2000



* Other includes mostly flora and nursery in B.C. and potatoes in Atlantic Canada.

Source: Statistics Canada, *Agriculture Economics Statistics*.

In the Prairies, red meats, and grains and oilseeds account for 82 per cent of farm cash receipts.

Ontario has a diversified sector, with the largest contributor to market receipts being red meats.

In Quebec, red meats and dairy dominate market receipts.

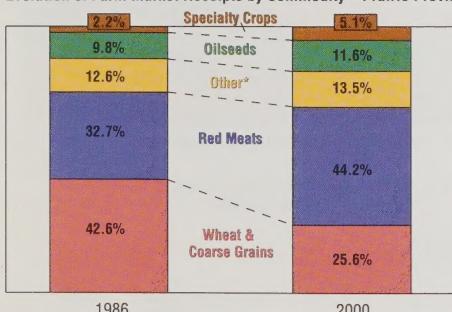
In Atlantic Canada, all major commodities, except grains and oilseeds, contribute significantly to farm market receipts.

Farmers are diversifying – particularly in the Prairies

Farmers have been continuously adjusting to changes in business conditions. This trend has been clearly evident in the Prairies where there has been significant diversification in production as a result of continuously declining grain prices and domestic policy reforms, such as the *Western Grain Transportation Act*.

As a result, the share of grains in market receipts declined significantly to 25.6 per cent in 2000 from 42.6 per cent in 1986. Over the same period, the income share of red meats and specialty crops increased significantly.

Evolution of Farm Market Receipts by Commodity – Prairie Provinces

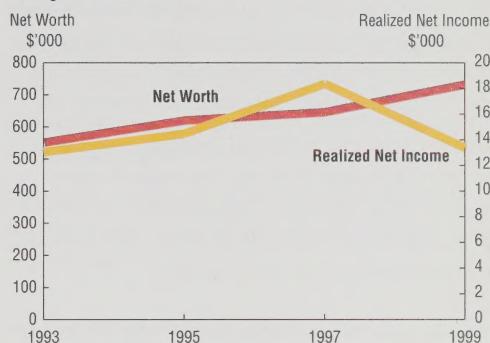


* Other includes mostly dairy, poultry and eggs, potatoes and pulses.
Source: Statistics Canada, Agriculture Economics Statistics.

On average, farm finances are stable

For the average farm, realized net income fluctuated over the 1990s, although program payments helped to minimize these variations. During the same period, producers' average net worth has remained relatively stable.

Average Farm Balances



Note: Realized Net Income per farm was calculated using aggregate Realized Net Income from Agricultural Financial Statistics, Statistics Canada divided by number of farms as reported by the Farm Financial Survey.

Source: Statistics Canada, Farm Financial Survey, 1998 and 2000 and Agriculture Economic Statistics.

Farms are diverse in the scale of operations

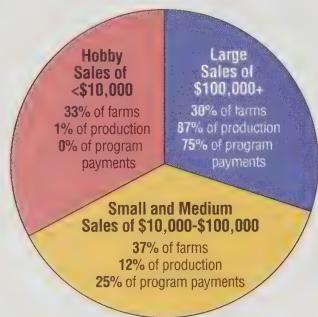
Farm operations vary based on many factors: one is the scale of operations.

While only one third of farms are large with sales over \$100,000, these farms account for 87 per cent of farm production and receive 75 per cent of agricultural program payments.

Small and medium farms account for another one-third of all farms in Canada, but account for only 12 per cent of production and receive 25 per cent of program payments.

Hobby farms represent the remaining one-third of farms. Hobby farming is a lifestyle choice and makes no significant contribution to family income.

Distribution of Canada's 270,000 Farms by Sales



Source: Statistics Canada, Whole Farm Database, AAFC estimates for 1999.

Off-farm income is significant for most farm families

For most farm families, a significant part of family income comes from off-farm sources.

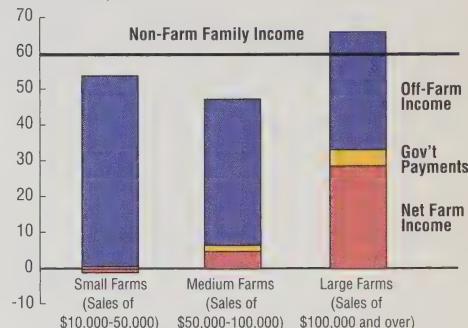
Even farms with sales of \$100,000 and over earn about one-half of their family income off the farm (e.g. earnings from off-farm employment).

Small and medium farms do not have the scale of operations for farm income to contribute significantly to total family income. For these farmers, off-farm income is even more important in determining their standard of living, accounting for almost all of their family income.

When all income sources are taken into account, families on small and medium farms have income slightly below the average of non-farm families. Families on large farms have incomes above the average.

Family Income, 1998

Thousands of \$



Source: Statistics Canada, Whole Farm Database and Small Area Administration Data.

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FOOD SAFETY HAS ALWAYS BEEN IMPORTANT
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Food Safety and Food Quality

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To realize this vision, governments have agreed in principle on an action plan for an agricultural policy framework composed of five elements: food safety and food quality, environment, science and innovation, renewal, and business risk management. The framework, which is based on the setting of common goals for each element, entails important benefits for the sector and ultimately the general public.

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Consumers are raising the bar for food safety and quality

Food safety has always been important to consumers, but recent high-profile events around the world, including outbreaks of mad cow disease in Europe, and concerns about bio-terrorism have raised their awareness and expectations. In addition, in areas other than safety, consumers are increasingly knowledgeable and discerning in their food purchases and are demanding greater choice.

To maintain their markets, suppliers of food and agricultural products are developing and implementing systems that demonstrate to both existing and potential consumers that they can deliver products within the demanded safety and quality specifications. At the same time, suppliers are taking advantage of these changing consumer dynamics to gain new markets and develop niche markets with potential price premiums. The proposed Agricultural Policy Framework (APF) aims to build on these efforts and help all producers to take similar steps and solidify Canada's reputation as a producer of safe, high-quality food. In working on these areas, it is critical to also look at the implications for other issues of concern to industry and consumers, such as regulatory harmonization within Canada and with key trading partners.

"Governments have made significant efforts focussed beyond the farm gate (e.g. food processing, etc.), but now must take additional steps to better integrate farms into the food safety continuum with the enhancement and accelerated implementation of on-farm food safety systems."

Federal–Provincial–Territorial Ministers of Agriculture Agreement in Principle on an Action Plan for an Agricultural Policy Framework, June 2001

Food safety systems are being strengthened

Until recently, efforts to improve food safety systems have primarily been at the processing level. For example, the processing industry

has worked during the past decade to implement Hazard Analysis Critical Control Points (HACCP), a control and monitoring system that stresses prevention and correction of potential problems at each step of the manufacturing process.

The HACCP approach complements traditional methods of food safety inspection, and it is quickly becoming the norm. Due to pressure from consumers for better safety and quality assurance, the use of HACCP and similar models is spreading throughout the food production and processing chain, all the way to the farm level.

The industry has been working proactively to develop national, voluntary, HACCP-based food safety programs for use on farms with financial support from Agriculture and Agri-Food Canada and the technical support from the Canadian Food Inspection Agency. Seventeen industry groups are developing plans that cover most of the major commodities, including livestock, poultry, horticulture and field crops. These actions, taken largely in response to customer demands, hold the potential to open new markets.

While the adoption of food safety systems on farms can be time-consuming, and technically challenging to implement, governments could ease these difficulties. Assistance from governments in this area, such as oversight and coordination, would promote the rapid adoption of food safety programs on farms across the country.

"To be the world leader, Ministers agree that Canada must ... build on Canada's reputation as a producer of safe, high-quality food products, by strengthening on-farm food safety systems and working to secure their international recognition. . . ."

Federal–Provincial–Territorial Ministers of Agriculture Agreement in Principle on an Action Plan for an Agricultural Policy Framework, June 2001

All activities of the food production and processing chain are interrelated. All parts of the continuum, therefore, need to have food safety systems in place in order to have a seamless, country-wide assurance system. Such a system is required to get the maximum benefit from these programs in international markets.



The role of governments in food safety

All orders of government in Canada have a role in food safety. Health Canada sets policies and standards for the safety and nutritional quality of food sold in Canada. The Canadian Food Inspection Agency enforces these standards, and sets and enforces standards for animal health and plant protection. At the provincial and territorial level, health, agriculture and other ministries enact food safety laws that apply to food produced and sold exclusively within the borders of their province or territory.

The Government of Canada, working with the provinces and territories, has agreed to officially recognize the administrative effectiveness and technical soundness of on-farm food safety programs, including the requirement to meet regulatory standards. This recognition will help foreign governments, buyers and consumers accept industry-led food safety programs on Canadian farms. This, in turn, could mean expanded markets for Canadian products.

Quality assurance programs are also on the rise

In addition to food safety assurance, there is a growing market demand for the development of quality assurance systems to help industry secure new markets for agricultural products. Although industry must take the lead in implementing these systems, government could help maximize their acceptance in global markets through oversight and official recognition of these programs.

Tracking and tracing provide safety and quality benefits

Outbreaks of diseases or pathogens within the food production and processing chain were once contained within small areas. Intensive farming and the increased movement of goods and people,

however, have made them much more difficult to contain. As a result, outbreaks—whether from natural causes or bio-terrorism—can spread throughout a country and around the world in a remarkably short time.

Further complicating matters is the fact that as a product moves through the production and processing chain and beyond, its source becomes less and less defined. In a situation where there is an outbreak, a large quantity of the commodity must be removed from the market to offset the risk that some of the affected product would be missed.

"Ministers also acknowledge the importance of moving forward with identity preservation systems to track and trace products throughout the food chain."

Federal–Provincial–Territorial Ministers of Agriculture Agreement in Principle on an Action Plan for an Agricultural Policy Framework, June 2001

The further development of tracking and tracing systems could help solve this problem. These systems preserve the identity of a product as it moves through the food production and processing chain on a commodity-by-commodity basis. This information could be used to remove suspect products from the market quickly and effectively.

The benefits of these systems also extend beyond disease surveillance of animal populations or identifying contaminated batches of food products. The identity preservation feature of tracking and tracing also contributes to quality assurance programs, which industry could use to maintain existing markets and capture niche markets for premium products.

To be effective, however, tracking and tracing systems must be applied consistently and nation-wide, and work throughout the entire chain from producer to consumer. At present, these systems are at different stages of development across commodities and across the country. Government could help the development of such systems throughout the sector with research, coordination and oversight.



Tracking and tracing is a marketing advantage

The benefits of tracking and tracing are evident in the case of seed potatoes, where the ability to track production right through to final destination has allowed Canada to both manage disease problems and to access markets that demand quality assurance.

An approach to enhanced food safety and food quality

"Ministers commit to a vision of Canada as the best country in the world in terms of on-farm food safety. This vision is only attainable if we have comprehensive, cost-effective, and consistent implementation all across Canada."

Federal–Provincial–Territorial Ministers of Agriculture Agreement in Principle on an Action Plan for an Agricultural Policy Framework, June 2001

To promote comprehensive and consistent implementation of food safety and quality assurance programs across Canada, the Ministers of Agriculture have committed to work together and with industry towards a set of common goals. Among the common goals being considered are:

- to protect human health by reducing exposure to food-borne hazards;
- to increase consumer confidence in the safety and quality of foods sold in Canada and/or exported;
- to improve ability to identify and respond to food safety issues and concerns;
- to increase ability to meet or exceed market requirements for food safety and quality;
- to support harmonized legislation and regulation to promote market access for domestic and export markets; and

- to provide value-added opportunities through the adoption of food safety and food quality systems.

To further encourage consistent implementation and to achieve these common goals, the following is being considered:

- to adopt food safety and food quality assurance systems, based upon HACCP principles, throughout the food continuum;
- to share critical food safety and surveillance information between all levels of government; and
- to implement comprehensive tracking and tracing systems throughout the food production and processing chain to meet public protection, consumer preference and commercial requirements.

Conclusion

Putting the Canadian agriculture and agri-food sector first requires a national vision and a national partnership. Governments and industry moving forward collectively to integrate all elements of the proposed APF would enable us to brand Canada as the world leader in:

- the production of safe food in an environmentally-responsible manner;
- meeting and exceeding diverse market specifications for quality; and
- innovation throughout the agri-food value chain so that investors and customers can be confident in Canada's ability to succeed today and into the future.

Branding Canada as the world leader in these areas will contribute to the continued growth and increased prosperity of the Canadian agriculture and agri-food sector by capturing new markets and customers.

To learn more about this Federal-Provincial-Territorial initiative, contact: www.agr.gc.ca/puttingcanadafirst or 1 800 O-Canada (1 800 622-6232).

Putting Canada First

AN ARCHITECTURE FOR AGRICULTURAL
POLICY IN THE 21ST CENTURY

AGRICULTURE'S LONG-TERM VITALITY

AND PROSPERITY DEPEND ON ITS ABILITY
TO CO-EXIST SUSTAINABLY WITH THE
NATURAL ENVIRONMENT.

Environment

The Government of Canada and the provincial and territorial governments are working with the agriculture and agri-food industry and interested Canadians to develop an architecture for agricultural policy for the 21st century. The objective is for Canada to be the world leader in food safety, innovation and environmentally-responsible production.

To realize this vision, governments have agreed in principle on an action plan for an agricultural policy framework composed of five elements: food safety and food quality, environment, science and innovation, renewal, and business risk management. The framework, which is based on the setting of common goals for each element, entails important benefits for the sector and ultimately the general public.

Accordingly, governments have launched a national dialogue about the policy direction with stakeholders and interested Canadians to develop the proposed policy approach. This **consultation** document is one of a series of publications dedicated to that end. To obtain additional information and contribute to this important dialogue, visit www.agr.gc.ca/puttingcanadafirst or call 1 800 O-Canada (1 800 622-6232).

Agriculture and the environment are closely linked

Agriculture's long-term vitality and prosperity depend on its ability to co-exist sustainably with the natural environment. Farmers understand this concept well.

Farming, however, has undergone significant changes in recent years. For example, producers are adapting to changing market demands, adopting new production technologies, and shifting towards larger, more intensive operations. While the full effects of these changes on the environment are not fully understood, recent studies show that some key pressures arising from agriculture, such as nutrient surpluses and emissions of greenhouse gases, have been increasing.

At the same time, public awareness and concern about these issues is growing. Canadians expect all economic sectors, including agriculture, to do their part to protect the environment. Canadian farmers recognize their responsibility as environmental stewards and are taking proactive measures.

The federal, provincial and territorial governments have been helping the sector meet its environmental goals for many years. There is an increasing need, however, for governments to work together with industry towards a comprehensive solution.

"Ministers, recognizing that environmental protection is a critical issue for citizens, as well as for the future viability of Canadian agriculture, agree to work towards a comprehensive plan for accelerated environmental action, fully covering all Canadian farms, that will help achieve measurable and meaningful environmental goals in the areas of water, air and soil quality, and biodiversity."

Federal–Provincial–Territorial Ministers of Agriculture Agreement in Principle on an Action Plan for an Agricultural Policy Framework, June 2001

Agriculture's interaction with the environment must be better understood

New investments in our ability to understand, measure and report on the status of the agricultural environment would pay dividends by addressing public concerns and ensuring the long-term sustainability of farm operations. These efforts would also help identify where progress is being made and where improvement is needed.

If this information were readily available, farmers could make significant progress towards sustainable agriculture by adopting cost-effective management practices, and other decision makers could make better land use decisions. Accordingly, as governments develop new programs for agricultural sustainability, they should make the delivery of this information a priority.



Environmental action must be comprehensive and coordinated

Coordinated action covering all farms in Canada would significantly improve the quality of the environment. Governments should provide tools for farmers to take advantage of new technologies and practices. They should also provide the tools for farmers to better understand the implications of their production decisions on the long-term sustainability of their farms. By providing effective, accessible programs, governments could assist farmers to make cost-effective investments in their farms.

Governments are already providing programs to the sector to varying extents. A consistent Canada-wide approach to agricultural sustainability, however, would demonstrate to buyers that Canadian agriculture and food products have been produced in an environmentally-responsible manner. Industry could use this advantage to capture new markets and seize a greater share of existing ones by improving the attractiveness of Canadian products. At the same time, a consistent approach would benefit all Canadians in all parts of the country with a cleaner, healthier environment.

An approach to improved environmental performance on farms

Because of the many benefits associated with a consistent approach, the Ministers of Agriculture have committed to work together and with industry towards a set of common goals for improving environmental performance on farms. These meaningful and measurable goals aim to achieve improvements in the quality of our water, soil and air, and in biodiversity. Specific areas where progress towards these goals could be demonstrated are:

- **Water:** Reduce agricultural risks to the health of water resources. Key priorities are nutrients, pathogens and pesticides.
- **Soil:** Reduce agricultural risks to the health of soils. Key priorities are soil erosion and soil organic matter.
- **Air:** Reduce agricultural risks to the health of air and the atmosphere. Key priorities are particulate emissions, odours, and greenhouse gas emissions.
- **Biodiversity:** To ensure compatibility between biodiversity and agriculture, which is the primary user of farm land. Key priorities are wildlife habitat, species at risk, and economic damage to agriculture from wildlife.



To ensure progress towards the common goals, Ministers of Agriculture propose the following:

- Farm Planning: an increase in the use of environmental farm planning, regional environmental management plans, or equivalent increase in the coverage of such environmental plans;
- Nutrient Management: an increase in the use of beneficial manure management practices and fertilizer management practices, nutrient management plans and the degree to which nutrient application is in balance with need;
- Pest Management: an increase in the use of beneficial pest and pesticide management practices;
- Land and Water Management: a decrease in the number of bare-soil days on farm land, an increase in no-till or conservation tillage, and improved management of riparian areas, grazing lands and water use; and
- Nuisance Management: the adoption of better management practices to reduce odours and particulate emissions.

Conclusion

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Government Publications



Competition and Subsidies in Global Markets

The Government of Canada and the provincial and territorial governments are working with the industry and interested Canadians to develop an agricultural policy for the 21st century. The objective is for Canada to be the world leader in food safety, innovation and environmentally-responsible production. This proposed policy direction recognizes the increased challenges that Canadian producers face as they work to adapt to rapid advances in technology and compete against other countries in an increasingly complex global food market.

The following is one of a series of three background briefs on key challenges that need to be addressed in building a stronger agriculture and agri-food sector in Canada:

- The effects of competition and subsidies in global markets;
- Rising consumer demands for food safety, enhanced environmental stewardship and other quality attributes; and
- The importance of skills and knowledge in an era of advancing science and technology.

Opportunity for growth in world markets

Trade is critical to Canada's agri-food sector

Canada is a major agricultural producer with a relatively small population. As a result, we export almost half of our farm products, either directly as primary products or indirectly as value-added processed products. Because of the amount of exports, the success of the agri-food sector depends, in large part, on international markets. But competition in these markets is increasing, which has implications for both the sector and Canadian agricultural policy.

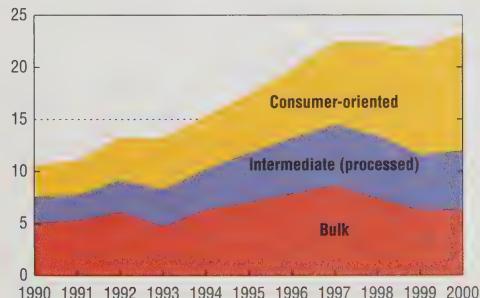
In recent years, Canada's agri-food exports increased rapidly. Between 1990 and 2000, they more than doubled, to \$23.4 billion a year. Much of the growth occurred in value-added products, which now account for the majority of agri-food exports.

In the future, international markets will continue to be a source of growth both for high-value products and bulk commodities.

Given the importance of international markets to the future growth of the sector, Canada is actively pursuing a multi-pronged trade policy to improve market access and to level the playing field through the current round of World Trade Organization (WTO) negotiations and through regional agreements like the Free Trade Area of the Americas (FTAA). At the WTO, Canada is pushing for real and substantial market access improvements, the elimination of export subsidies and the maximum possible reduction of trade-distorting domestic support.

Total Canadian Agri-Food Exports

\$ Billion



Note: As examples of the export categories, wheat is a bulk product; flour is an intermediate (processed) product; and frozen pastries are a consumer-oriented product.

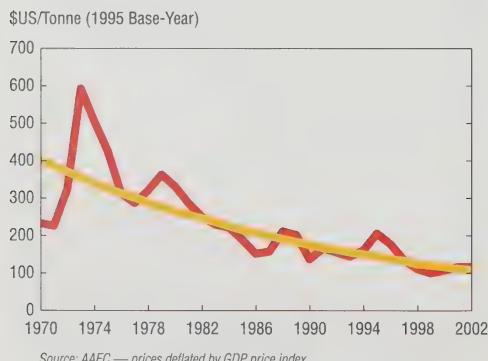
Challenge of increased competition in world markets

Increased international competition drives prices down

Technological change, ranging from increased mechanization of agriculture to advances in biotechnology, has been affecting agriculture for decades. This change has increased the efficiency of world agricultural production and has allowed both existing farm operations to improve their yields and new operations to begin production in areas previously thought to be unsuitable for farming. As a result, technological change has increased productivity, reduced production costs, and increased total production.

One of the most significant effects of technological change and increased competition is the long-term decline in most commodity prices. For example, in the grains and oilseeds sector, the price of wheat (price of #1 CWRS adjusted for inflation) has fallen at a significant pace over several decades as indicated in the following graph.

Wheat price adjusted for inflation

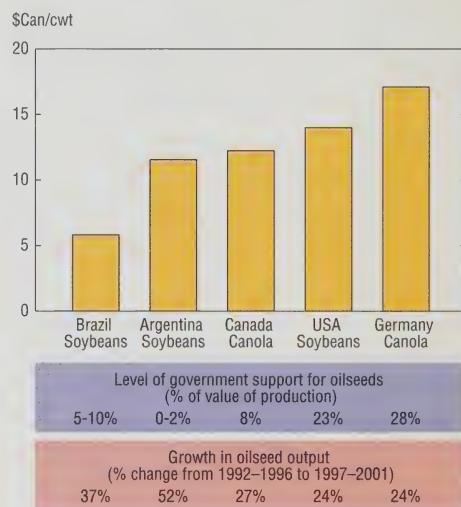


Source: AAFC — prices deflated by GDP price index.

In recent years market forces have pushed prices down

More recently, the decline in wheat prices has also been driven by some short-term factors including the economic collapse in Southeast Asia and the former Soviet states which reduced world demand over the period 1995–2000. In addition, policy reforms in China have made it largely self-sufficient in grains, reversing its role as a major importer of grains.

International comparison of the costs of production for oilseeds, 1999



Note: Cost of production is expressed in canola equivalent.

Sources: International Farm Comparison Network (Germany), Organization for Economic Co-operation and Development, and Agriculture and Agri-Food Canada.

Competition increasing from low-cost countries, with little government support

Increasing world supply has added to the pressure on prices. Low-cost producers such as Brazil and Argentina have significantly increased production in the past ten years. These countries have been able to use their low costs to increase their world market share with relatively low levels of

government support. In fact, recent production data indicate that Brazil and Argentina are now producing almost as much soybeans as the United States.

Subsidies also play a role in driving grain prices down

Many observers point to high levels of subsidies in the United States and the European Union as the main cause of low grain prices in Canada. However, analysis has shown that the impact of these subsidies on grain prices is much less than many suggest. In fact, the complete removal of all US and EU subsidies would reverse about one quarter of the decline in grain prices since the mid-1990s. Rather, most of the decline in grain prices is due to the dynamics of the world markets beyond the influence of government subsidies.

In the face of declining prices, the challenge for Canadian producers is to adopt new technologies, to innovate and to produce value-added products to remain ahead of international competitors.

Support programs—some drawbacks

Program payments have unintended consequences

Many countries have tried to insulate their agricultural sectors from the pressures of increased international competition and declining world prices with farm support programs. But evidence is growing in many countries that traditional farm support programs can have serious unintended consequences that undermine their effectiveness in building a stronger agriculture sector. In some cases, these programs can actually increase the dependency of the producers on government support and undermine their commercial viability.

How serious the unintended consequences are depends on the exact structure of the farm support. Recent studies from the Organization for Economic Co-operation and Development

(OECD) and others show that traditional programs like input subsidies, price supports and tariff barriers have serious unintended consequences as they distort production and trade decisions and often increase costs. As a result, a high proportion of the benefits can fall to non-farmers. In addition, these programs can have unintended costs in other important areas, such as the environment, by creating an adverse incentive for intensive production practices or by expanding production onto marginal lands.

Program payments have evolved in recent years...

Agriculture policies in developed countries have evolved in recent years, in part, to try to reduce these unintended consequences. Canada moved from commodity-specific support to a whole-farm approach. The United States moved to decouple its assistance from current production decisions in its agriculture reforms of the mid-1990s. The European Union also moved away from market-price support and reduced its use of highly distorting export subsidies.

With these moves, there has been some progress in reducing production and trade-distorting farm support policies, but only to a limited degree. The United States has increased support levels in recent years and increased the use of traditional programs that cause some of the largest distortions in markets. In the European Union, levels of support still remain high.

...but they can still undermine diversification and increase costs

Even with the recent improvements, farm support programs in the major developed countries still have significant adverse effects that can make them counterproductive to building a strong agricultural sector.

The conditions associated with farm support programs, such as price supports, can undermine farmers' incentives to produce for the market and thereby reduce diversification.

They can also raise costs, particularly if they get capitalized in land values. For example, a recent USDA study found that US support payments increased land values by US\$270 billion. In Canada, 40 per cent of farmers rent land, and for them, an increase in support payments would quickly translate into higher rental costs and the benefit of the support program would be lost. Also, as a result of higher land values, many farmers—particularly new farmers—must assume larger debt loads to begin operating.

They displace market income

The combined effect of reduced diversification and increased costs is that support programs squeeze the operating profits of farms and effectively displace market income of producers. A recent OECD study shows that it can take up to four dollars of support payments from taxpayers to increase the net income of a producer by one dollar—a poor return for the public transfers to the sector. As a result, the benefits of support payments could be dissipated, commercial viability for producers would be reduced, and the dependency on government payments increased.

Summary

- World markets are critical for the future growth and success of Canada's agricultural sector.
- Rapid technological change and increased international competition are driving down commodity prices.
- Low-cost producers are increasing their market share with relatively low levels of government support.
- While foreign subsidies have some effect on Canadian grain and oilseed prices, technological change and increased world competition will continue to lower world commodity prices, regardless of the direction of government subsidies.

- Farm support programs cannot insulate producers from the pressures of world markets. They have serious unintended consequences that reduce the commercial viability of many producers and that increase their dependency on government support.
- The difficulties with subsidies suggest that the way to ensure a strong sustainable agricultural sector is by focusing on commercial success through the market.

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Changing Consumer Demands

The Government of Canada and the provincial and territorial governments are working with the industry and interested Canadians to develop an agricultural policy for the 21st century. The objective is for Canada to be the world leader in food safety, innovation and environmentally-responsible production. This proposed policy direction recognizes the increased challenges that Canadian producers face as they work to adapt to rapid advances in technology and compete against other countries in an increasingly complex global food market.

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- The importance of skills and knowledge in an era of advancing science and technology.

Meeting consumer demands

Consumer demands are changing the face of agriculture

As the standard of living in Canada and other developed countries has risen, per capita food consumption has stabilized and basic food needs are being met. At the same time, consumers are more discriminating about the food they buy. They want safe food, as a minimum, but they also want a greater choice of food with look, taste, nutritional value and convenience as the key factors. They also want assurances that it is produced in an environmentally-responsible manner.

Many suppliers are developing systems that demonstrate to both existing and potential customers that their products meet the specifications demanded by consumers. At the same time, these suppliers are taking advantage of changing consumer preferences to gain new markets and develop niche markets with potential price premiums, which consumers may be willing to pay. This willingness presents opportunities in agriculture because studies show that as the average income of consumers rises, their willingness to pay for specific quality attributes also rises.

The challenge facing producers and processors is how to respond to these rising consumer demands. They must adapt if they want to capitalize on the opportunities that are available by meeting these consumer demands.

Ensuring food safety

Food safety is essential

Food safety has always been important to consumers and continues to be a basic requirement of a modern food system. Surveys show that food safety is a high priority for almost 80 per cent of Canadians. Recent high-profile food safety catastrophes include Mad Cow Disease (BSE), dioxin contamination in Europe and E-coli 0157:H7 in hamburger and unpasteurized juice here in North America. If producers and processors cannot assure Canadians of food safety, producers and processors risk major interruptions to their business, loss of exports and a downgrading of Canada's reputation as a supplier of safe and high-quality food.

These concerns are the driving force behind the use of new standards and systems to promote quality assurance and food safety. Programs based on the Hazard Analysis Critical Control Points (HACCP) and tracing systems in some parts of the food chain, particularly the processing sector, are now extending to other parts of the food chain including the farm level. Major commodity groups are developing programs.

For example, producers are tagging the ears of beef cattle to allow tracing of individual animals back to the producers.

Tracking and tracing systems can also contain the cost of disease outbreaks. The recent outbreak of Foot and Mouth Disease (FMD) in the United Kingdom was very costly. It is widely acknowledged that the control of the outbreak was complicated by difficulties in tracing animal movements, due in particular to a lack of an effective identification of all farm animals. In this case, the tracking of the movement of sheep proved difficult and in some cases impossible. Infected sheep criss-crossed the country prior to authorities realizing they had an outbreak. The Federation of Veterinary Surgeons of Europe is now calling for the identification of all farm animals with a more effective system for tracing movement internationally, within country, or between individual farms.

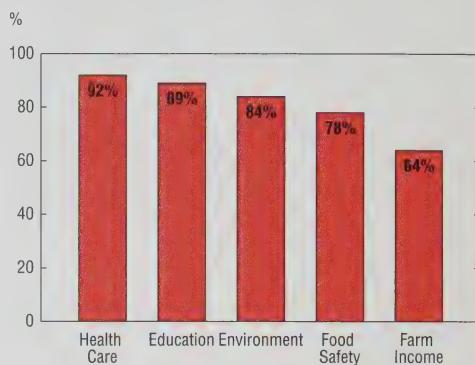
Cost of disease outbreaks can be large

Helping contain disease outbreaks is a major benefit of food safety systems, given the potentially devastating cost of disease outbreaks. For example in 1996, with the outbreak of Mad Cow Disease, the United Kingdom had an immediate 40 per cent drop in sales of beef products and a 26 per cent drop in household consumption of beef and veal.

Similarly, the economic impact of the recent FMD outbreak to the United Kingdom and the European Union in 2001 was estimated at \$C6-\$18 billion. Even though FMD is not a human health issue, the impact was widespread because of restrictions imposed by various countries on travel, trade and animal movement affecting agriculture, tourism, trade and food consumption. If a similar outbreak were to happen in Canada, it is estimated that livestock producers would experience approximately a 50 per cent decline in the price of their products.

The costs to society are also high. According to the USDA, the social and economic cost of food-borne illnesses from five known pathogens in the United States (Campylobacter spp., salmonella, E-coli 0157:H7, E-coli non-0157 STEC, and Listeria monocytogenes) was estimated at \$US7 billion annually.

Consumer attitudes towards selected issues, 2001
% of citizens who consider the issue a high priority



Source: Ekos, 2001

Agriculture and the environment

More progress is needed on the environmental front

Environmental concerns are also considered a high priority by 84 per cent of Canadians, who increasingly recognize the role of the environment in quality of life and human health issues. They also recognize the fundamental link that exists between agricultural production and the environment. They are placing increasing demands on farmers and processors concerning the environmental soundness of their production methods.

Producers are responding to these concerns. Many are beginning to implement environmental farm plans (19 per cent of Canadian farm operators had intentions to do so in 2001) and management practices that will ensure long-term sustainability and prosperity. Implementing these plans and practices will also help to address growing concerns about certain practices such as intensive farming operations. There has been a marked increase in the number of media reports covering the opposition to intensive farming operations in recent years.

These concerns are consistent with knowledge of the pressure points on the environment arising from farm production and practices. Agri-environmental indicators, which measure success in managing these pressure points, show mixed results, as indicated in the box below:

Agri-environmental indicators show mixed results

Risk of water contamination increased:

- Percentage of farmland where nitrogen content in water has increased (more than 1 mg of nitrates per litre) between 1981 and 1996: 77% of Quebec farmland and 68% in Ontario.
- Percentage of farmland at high risk of water contamination by nitrogen in 1996: 69% in British Columbia.

Soil quality improved:

- Percentage of Prairie cropland at high risk of wind erosion between 1981 and 1996 fell from 15% to 6%.
- 85% of Canadian cropland is at a tolerable risk of soil erosion by water; an improvement over the period 1981–1996.

Climate change impact:

- Greenhouse gas emissions from agriculture between 1981 and 1996 increased 3.5%.

Agricultural habitat trends mixed:

- Agricultural wildlife habitat increased in some regions, and either decreased or remained constant in others between 1981–1996.

Environmental planning by producers:

- 35% of Ontario farmers participated in environmental farm planning workshops in 2000.
- 12% of Quebec farmers participated in agri-environmental clubs in 2000.

Source: AAFC Report of the Agri-Environmental Indicators; and Great Lakes and St. Lawrence River Basin: Report of the Commissioner of the Environment and Sustainable Development – 2001.

Changing demands and the agri-food chain

Relationships along the agri-food chain are changing

As consumers increasingly express greater concern for food safety and the environment and demand specific food quality attributes, changes are occurring throughout the agri-food chain. Major commercial buyers at the processing and retail levels, who are quite often at the forefront of changing market trends, are placing new demands on input suppliers

regarding tighter specifications on attributes and methods of production. They are establishing new marketing relationships and linkages with producers to position themselves to respond to changing consumer demands. These linkages include developing contracts with producers that combine rigid production protocols with a greater certainty on sales and guarantees on prices.

Changing relationships in the agri-food chain

The drive to quality in the global food market is changing relationships across the agri-food chain. A particular example of these changes is occurring in the pork industry. A major Canadian pork processor contracts with producers for hogs with the following terms:

- The contracted producer is bound to specific production methods and must keep formal records. For example, they must vaccinate against diseases such as pneumonia as directed by veterinarians, generate ID's for individual pigs and ensure that hogs are free of drug residues.
- There are also stringent quality requirements on the final product such as acceptable fat hardness and colour score.
- In return, the producers receive a price that is comparable to those in world markets, and are assured of a more predictable cash flow. They also receive technical assistance in the form of state of the art feed and nutrition programs and animal genetics.

This type of contract also benefits the consumer through the provision of safe, nutritious and high quality food products, and provides traceability through a formal record keeping system.

The potential for price premiums is increasingly evident in markets where producers are responding to consumer preferences for specific product attributes. In Ontario, soybean producers developed an identity preservation system that allowed them to expand sales into the lucrative Asian market for food-grade white hilum soybeans. About 30 per cent of Ontario sales are currently identity preserved. By moving quickly into niche markets, these producers have been capturing price premiums of between 10 per cent and 50 per cent.

Another example is organic food in the United States. Consumers are paying price premiums of 50 per cent for cereal crops, 60 per cent for dairy and up to 100 per cent on fruits and vegetables for what they perceive to be safer, more nutritious food.

Other countries' responses to rising consumer demands

Throughout the world, other countries are responding to consumer concerns about food safety and the environment. The United States is considering more funding for environmental programs, such as technical assistance to farmers to learn about environmentally friendly production practices and expansion in conservation programs. Australia, New Zealand and various countries in the European Union are introducing systems of quality assurance and food safety as well as environmental farm plans, certifications and regulations to address citizens' concerns.

Many countries are also considering more stringent technical standards for both domestic production and imports, including restrictions on certain varieties and increased demand for documentation of food content. Given the importance of export markets for most Canadian food products, the way Canada responds will directly affect the future growth opportunities of the agri-food sector.

Summary

- Increasing consumer demands for food safety, food quality, and new production methods are transforming agriculture and agri-food sectors.
- Major players in the agri-food chain are responding by developing new marketing relationships and placing new demands on producers and processors.
- Other countries are responding to consumer demands by reforming domestic policies and increasing technical standards for imports.
- For Canada and its export markets, the ability of the industry and governments to respond to consumer demands will determine success in the future.

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Importance of Skills and Knowledge

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Knowledge-intensive agriculture

Knowledge-intensive agriculture affects all producers

The information revolution that is driving changes throughout the economy, along with advances in science and technology, are transforming the agricultural industry at an increasing pace and making agriculture a more knowledge-intensive industry.

This shift affects all producers in Canada, large and small. While farm operations are diverse and the nature of the challenges may vary, the capacity to succeed depends on more than just the scale of the farm operation. As agriculture becomes more knowledge-intensive, farm management becomes more complex and even more critical for success.

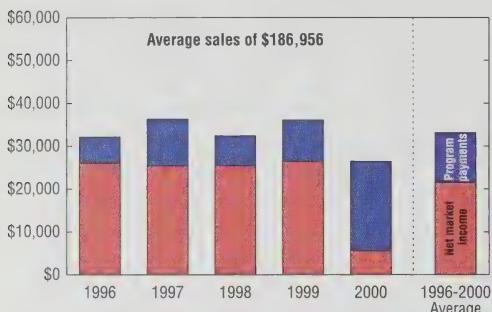
Farm performance varies

Even after the traditional risks such as weather and price fluctuations are taken into account, there are still wide variations in the financial performance of farms. For example, an analysis of large Manitoba grain farms indicates that the most profitable producers have higher and more stable incomes than the least profitable farms, and they receive less in safety net payments. Between 1996 and 2000, the most profitable (the top 20 per cent) of large grain and oilseed farms in Manitoba (sales over \$100,000), had an average net annual income of \$32,565 including program payments of \$11,022. In contrast, the least profitable farms (the bottom 20 per cent) barely broke even with an average net income of \$5,001 despite receiving \$36,579 (on average) in program payments. These least profitable farms experienced significant market losses and fluctuations in the size of losses each year.

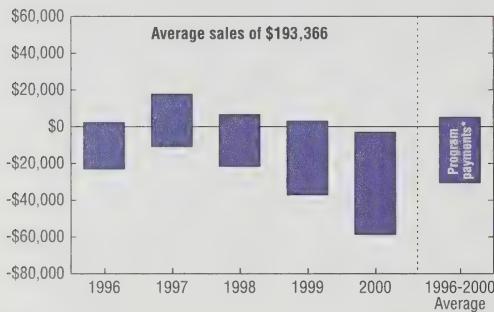
These results are not unique to this region or commodity. Among farms of similar size, producing similar commodities, in the same region of the country, there are wide differences in performance year after year. This suggests that the level of farm income and its variability are highly influenced by on-farm practices and circumstances, and are not entirely the result of factors beyond the producer's control.

Net income of large grain and oilseed farms in Manitoba (sales over \$100,000)

Most profitable farms (top 20%)



Least profitable farms (bottom 20%)



Note: (1) Each farm is grouped for the entire five-year period based on operating ratio—the average rate of net market income to total sales over the five-year period.

(2) Income measured after Capital Cost Allowance.

*Bottom of bar starting below zero means program payments offset negative market income.

Source: AAFC NISA program database.

The critical factors for success

Successful farmers use a wide array of management skills

The analysis above suggests that there is significant potential to increase the performance of the primary sector by helping farmers earning below-average farm incomes to increase their earning capacity. Various factors contribute to farm's success. Research does provide some guidance as to which factors are important.

Based on a comparison of several Canadian studies, three distinct skill areas emerge:

1. Skills related to acquiring, organizing and assessing information. This includes both information on what is happening outside the business and what is happening inside the business. There is an attitude or motivational component to this area as well as a skill component. Managers have to be motivated to go beyond their traditional sources of information and also to "step outside their paradigm" when evaluating information.

2. Skills related to making good business decisions. This requires good information and strong analytical abilities. There is an attitude component to this skills area as well. As an aid to making better decisions, managers have to be willing to seek the advice and opinion of others.

These first two areas encompass the skill areas of information management, entrepreneurship, and strategic thinking and planning.

3. Skills related to using and organizing resources to implement decisions. Depending on the type of decision, skills are required in any or all of the management areas of operations management, finance, marketing, human resources and production.

The relationship between these skill areas could be summarized as follows: Skill area #3 addresses the "doing things right" part of management, while skill areas #1 and #2 address "doing the right things". Both types of skills are critical factors for success.

Use of management tools is improving

A recent survey by Ipsos-Reid examined farm management practices in Canada, the United States and Australia to record the use of various management tools and practices in these three countries. The study found that, in general, producers in these three countries have been gradually adopting business management tools and techniques.

The study found that one of Canada's strengths is that producers used electronic technology more broadly. Canadian farmers use the Internet for production and marketing information as well as for selling farm products.

Lifelong learning is important

Learning requirements are changing

Many of the skills necessary to operate a farm are passed from generation to generation. The Ipsos-Reid survey found that 78 per cent of farmers in Canada started farming alongside a more experienced farmer.

This informal apprenticeship has worked quite well; however, there is a need to build on this mentoring tradition. The management challenges for successful agriculture are becoming more complex. Acquiring new skills and knowledge to be able to harness new management practices that are critical to financial performance involves a commitment to lifelong learning.

All Canadians face significant challenges regarding lifelong learning. The evidence suggests that in agriculture Canadians are less likely to have taken a training course in the last two years than their counterparts in other countries: 10 per cent of Canadian farmers have taken a farm management course in the past two years compared to 20 per cent in the United States and 28 per cent in Australia. The survey shows a correlation between the level of formal education and participation in lifelong learning activities: Producers with a post-secondary education were more likely to participate in farm management training activities in the past two years.

Formal education and life-long learning are correlated

Other studies have confirmed this link between the level of formal education and likelihood of upgrading skills. The implication is that formal education provides an important foundation for lifelong learning, which can have a large payoff for agricultural producers later in life. Today, one-half of young farmers have some post-secondary education. As a result, there is significant potential to improve young farmers' lifelong learning through a stronger foundation of formal education. Surveys also suggest that institutions are not meeting farmers' needs for ongoing learning. Farmers indicate that they would make more use of advice or training in strategic planning, diversification and innovation if it were more readily available. Clearly, there is scope to improve the response of our institutions to farmers' continuous learning needs.

Summary

- Agriculture is becoming more knowledge-intensive, changing rapidly, and making farm management more complex. Skills and knowledge are becoming more critical for success.
- Using a wide variety of management skills and practices, farmers can positively influence their financial performance. In a rapidly changing environment, strategic business planning and continuous learning are increasing in importance.
- Recent surveys of farm practices indicate that there are significant opportunities for improvement in Canada in terms of adopting new farm management tools.
- Lifelong learning and upgrading skills can increase the performance of individual operations and the industry as a whole.

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Putting Canada First

AN ARCHITECTURE FOR AGRICULTURAL
POLICY IN THE 21ST CENTURY

NEW SKILLS, THE ADOPTION OF
NEW TECHNOLOGIES, AND THE EXPANSION
OF OPERATIONS OR CHANGES TO PRODUCT
MIXES WILL CONTRIBUTE TO FARMERS'
SUCCESS IN THE NEW CENTURY.

Renewal

The Government of Canada and the provincial and territorial governments are working with the agriculture and agri-food industry and interested Canadians to develop an architecture for agricultural policy for the 21st century. The objective is for Canada to be the world leader in food safety, innovation and environmentally-responsible production.

To realize this vision, governments have agreed in principle on an action plan for an agricultural policy framework composed of five elements: food safety and food quality, environment, science and innovation, renewal, and business risk management. The framework, which is based on the setting of common goals for each element, entails important benefits for the sector and ultimately the general public.

Accordingly, governments have launched a national dialogue about the policy direction with stakeholders and interested Canadians to develop the proposed policy approach. This **consultation** document is one of a series of publications dedicated to that end. To obtain additional information and contribute to this important dialogue, visit www.agr.gc.ca/puttingcanadafirst or call 1 800 O-Canada (1 800 622-6232).

Today's farmers face significant change

Today's farmers face a number of changes and the challenges that go with them. Producers are expanding their knowledge base and mastering innovative technologies, products and practices. And as their operations become larger and more complex, they are expending increasingly more effort to manage financial and human resources.

In addition, the changes and challenges are occurring in the context of a demographic turnover, as a significant number of farmers retire over the coming years. Canada's Ministers of Agriculture have agreed on the necessity to build on the actions producers are taking and help provide all farmers with the tools needed to meet the changes and seize the opportunities they present.

"To be the world leader, Ministers agree ... to help farmers adapt to the changes occurring in the agriculture sector through programming that addresses their unique needs."

Federal–Provincial–Territorial Ministers of Agriculture Agreement in Principle on an Action Plan for an Agricultural Policy Framework, June 2001

Assessment and consultation services can help farmers adapt

To make wise choices about their future and support their decisions, farmers need access to additional information that could help them improve their current business and financial situation. In some cases and at certain times in their careers, they may also benefit from an assessment of their skills. This assessment could improve the way farmers manage their farms, or identify new skills for earning income off the farm or to pursue new options.

Farmers currently have access to counselling through the Federal Farm Consultation Service and other similar services provided by provincial governments. Generally these services are limited to financial counselling for eligible farmers regarding the preparation of income and expense schedules and multi-year operational plans. In large measure, these services do not go far enough in providing comprehensive information about what farmers could do to adapt to the rapidly evolving challenges.

New skills and knowledge required on an ongoing basis

Traditionally, many of the skills needed to operate a farm were passed from generation to generation in what was, in effect, an informal apprenticeship. This method, complemented by some ongoing learning, worked reasonably well in the past. But today's farmers need skills and knowledge that cannot always be obtained in this fashion. Farmers are committing to acquiring new skills and knowledge on an ongoing basis. The proposed Agricultural



Policy Framework (APF) aims to provide all producers with opportunities to pursue continuous skills development throughout their careers.

Currently, training and skills development programs aimed at the agriculture and agri-food sector often focus on traditional farm-management skills. Most other sectors of the economy, however, have joint industry/government mechanisms to determine the types of skills necessary for that sector, and to develop national approaches for skills development. Currently, no such mechanism exists for the agriculture and agri-food sector.

"Governments agree to help farm families to pursue options including: maximizing income through improvements to the farm operation, accessing capital, enhancing income through additional economic activities on-farm, enhancing the capacity to earn off-farm income, transferring the farm to the next generation, or choosing non-farm options."

Federal–Provincial–Territorial Ministers of Agriculture Agreement in Principle on an Action Plan for an Agricultural Policy Framework, June 2001

Planning tools can ease intergenerational transfer

Typically, new farmers start their careers by taking over existing family operations. To ease these inter-generational transfers, farmers should have written succession plans that clarify how and when each component will be transferred to the purchaser. Because in the coming years a significant number of farms will change hands this way, it is especially important that farmers and farm families have the proper tools to do this type of planning.

Capital is key to growth and diversification

Canada has a well-developed financial sector. In general, farmers have adequate access to borrowed capital from the private sector and from public lenders such as Farm Credit Canada and the provincial lending agencies. They may not, however, have adequate access to needed equity capital, particularly as operations grow larger and diversify. For example, a number of the large hog operations now being established have sought equity investments from local farmers and other investors.

Farmers need options that work for them

With new skills, the adoption of new technologies, the expansion of operations or changes to product mixes, farmers can be successful in the new century. Some farmers may also choose to seek off-farm economic opportunities as a means to supplement the income from their farming operation. Others, however, could decide that their best prospects for the future lie outside farming. At present, few programs are in place to help these individuals prepare for and pursue alternatives off the farm, either full-time or part-time.

A possible approach to renewing the sector for the 21st century

The Government of Canada and the provincial and territorial governments have a number of programs geared towards renewal that farmers can access. The availability and delivery of these programs, however, are not the same across the country. Some



governments have had difficulty maintaining these services, while others continue to expand renewal programs. Because of this disparity, an approach to renewal programming must be made available to all Canadian farmers. To this end, the Ministers of Agriculture have committed to work together and with industry towards a set of common goals. Among the common goals being considered are:

- to enable beginning farmers to acquire the skills and expertise to manage their business and adapt to evolving consumer preferences and new scientific advances;
- to engage farmers in the continuous upgrading of the skills needed to farm in an evolving sector;
- to provide farmers with the strategic management skills they need to make their farms as profitable as possible; and
- to provide farmers with access to a wide range of choices to enhance their future quality of life.

Furthermore, to ensure that the approach to renewal is consistent across the country and to achieve the common goals above, the following are being considered:

- to reach consensus among governments, industry and other stakeholders on the mechanism to identify the evolving skills needs of farmers;
- to enable farmers to have access to enhanced advisory services;
- to provide adequate access to peer support, mentoring, and networking;
- to enable farmers to have access to learning opportunities in environmental management and food safety;
- to provide opportunities to capture the benefits of advances in science;
- to provide opportunities to learn business risk management and strategic planning skills;

- to provide and promote advisory services that include the human and family dynamics of the farm transfer or sale process; and
- to facilitate access to capital for farmers entering the sector, expanding their business, or moving into value-added and diversified production.

Conclusion

Putting the Canadian agriculture and agri-food sector first requires a national vision and a national partnership. Governments and industry moving forward collectively to integrate all elements of the proposed APF would enable us to brand Canada as the world leader in:

- the production of safe food in an environmentally-responsible manner;
- meeting and exceeding diverse market specifications for quality; and
- innovation throughout the agri-food value chain so that investors and customers can be confident in Canada's ability to succeed today and into the future.

Branding Canada as the world leader in these areas will contribute to the continued growth and increased prosperity of the Canadian agriculture and agri-food sector by capturing new markets and customers.

To learn more about this Federal-Provincial-Territorial initiative, contact: www.agr.gc.ca/puttingcanadafirst or 1 800 O-Canada (1 800 622-6232).



Putting Canada First

AN ARCHITECTURE FOR AGRICULTURAL
POLICY IN THE 21ST CENTURY

THE LATEST SCIENCE DEVELOPMENTS
OFFER MANY OPPORTUNITIES FOR THE
AGRICULTURE AND AGRI-FOOD SECTOR.

Science and Innovation

The Government of Canada and the provincial and territorial governments are working with the agriculture and agri-food industry and interested Canadians to develop an architecture for agricultural policy for the 21st century. The objective is for Canada to be the world leader in food safety, innovation and environmentally-responsible production.

To realize this vision, governments have agreed in principle on an action plan for an agricultural policy framework composed of five elements: food safety and food quality, environment, science and innovation, renewal, and business risk management. The framework, which is based on the setting of common goals for each element, entails important benefits for the sector and ultimately the general public.

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Agriculture is applied science and innovation in action ...

The agriculture and agri-food sector has always been profoundly affected by science and technology. The farm practices of today could hardly be imagined 50 years ago. The agricultural production and processing chain—from farm inputs to consumption—is also evolving. In recent years, innovations and advances in science and technology have made the pace of change quicker than ever.

"We're on the verge of yet another revolution. Biology is transforming to a science based upon information... We're seeing the convergence of biotechnology with information technology. We're seeing the convergence of biotechnologies with materials technologies, and we're going to see the impact of biotechnology across all sectors of the economy. The new economy only comes from intensive research and development."

Peter A. Hackett, Vice-President of the National Research Council

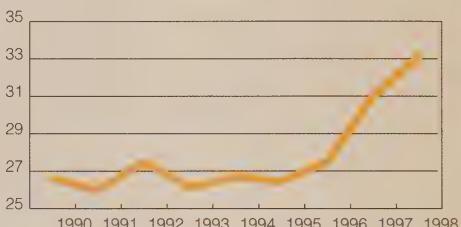
... and it's changing rapidly

Rapid advances in such fields as biology and chemistry, combined with the ever-increasing power of new information and communications technologies, have fueled significant growth in the bioeconomy. At the same time, once distinct fields of enquiry such as plant and animal sciences, or environmental and health sciences and once distinct businesses such as agriculture, chemicals, health care and pharmaceuticals are converging. This convergence has accelerated the pace of research activity, as demonstrated by increases in Canadian patenting activity shown in the graph below.

The pace of innovation is increasing

Patenting Activity in Canada 1990-98

Applications Filed ('000s)



Source: Canadian Intellectual Property Office

With change comes opportunity

The latest science developments offer many opportunities for the agriculture and agri-food sector. New applications for agricultural commodities are being developed such as nutraceuticals, sources of medicinal substances and renewable fuels. Taking advantage of these innovations could help to increase incomes through diversification of farm business, shift consumption from non-renewable to renewable resources, improve environmental practices and enhance food safety and quality systems.

"Ministers agree that innovation through the sound application of science and research will be key to creating additional economic opportunities for the agriculture and agri-food sector, strengthening environmental stewardship and improving food safety, as well as addressing many forms of risk."

Federal—Provincial—Territorial Ministers of Agriculture Agreement in Principle on an Action Plan for an Agricultural Policy Framework, June 2001



Working together for success

Responsibility for innovation in the sector is shared by many players. The complex set of relationships that connect research and technology development to end users, including farmers, cuts across industry and government. The research component of innovation includes government research centres, colleges and universities, and private-sector laboratories.

"Ministers recognize that the benefits of the life sciences will be realized only through collaboration and coordination across many scientific disciplines and research organizations."

Federal–Provincial–Territorial Ministers of Agriculture Agreement in Principle on an Action Plan for an Agricultural Policy Framework, June 2001

To get all players working toward the same goals, it is critical to strengthen the links and coordinate efforts among them. There are many joint efforts among the various institutions throughout the research and innovation chain, which are promoted by a broad spectrum of informal and formal arrangements. These collaborations could be strengthened and expanded.

The right environment will foster innovation

To become the world leader in agriculture and agri-food, Canada must move quickly to encourage research and development and to quickly get the resulting innovations into the hands of farmers and other end users.

It is therefore important to foster a business environment that is conducive to research and development, and that encourages public and private funding of agricultural research and the early application of research results. This could be achieved through appropriate investments and close collaboration among all players in the innovation chain.

Science collaboration at its best—Soya 20/20

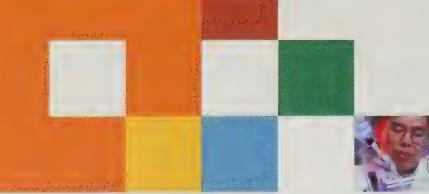
Soya 20/20 is a proposed collaboration of all levels of industry and government in Canada whose goal is to establish the Canadian soybean industry as the world leader in value-added markets. It plans to achieve this through:

- a strategy for the global marketplace, including improved linkages through the production and processing chain;
- investigation into opportunities for, and barriers to, value-added processing;
- exploration of new markets, such as food-grade soybeans, organically produced products, nutraceuticals, plastics and other industrial uses;
- investigation into the research capacity and potential synergy among institutions;
- a forum on investments in new components of the production and processing chain; and
- analysis of consumer, industrial and technological trends that are driving demand for specific soybean traits.

"Ministers also recognize that economic benefits will accrue to nations that first develop and bring to market new products and processes."

Federal–Provincial–Territorial Ministers of Agriculture Agreement in Principle on an Action Plan for an Agricultural Policy Framework, June 2001

Consumer and industry confidence is key to moving new products and technologies through the innovation chain. Strengthened stewardship would reinforce the confidence that consumers and stakeholders have in the safety, food quality and benefits of innovative products and practices.



Finally, the promise that science and innovation hold for Canadian agriculture is achievable only if the sector—producers, processors and distributors—know about and adopt innovative technologies and practices. It is crucial, therefore, to help the sector take advantage of the latest production and management techniques, including those that have food safety, food quality and environmental benefits.

A new approach to leveraging science and innovation into excellence

Science and innovation are the cornerstone of all efforts to make the Canadian agriculture and agri-food sector the world leader and to support its future success and prosperity. With this in mind, Ministers of Agriculture have committed to work together and with industry towards a set of common goals to increase the economic benefits to producers and processors while positively contributing to the environment, health of consumers and Canada's economy. Among the common goals being considered are:

- to increase/realign investments to support the national science and innovation initiatives in the priority areas of the APF (i.e. the environment, food safety, renewal and risk management) and biomass, bioprocess and bioproduct research;
- to increase the amount of investment in agriculture and bioproducts (e.g. nutraceuticals) accessed from non-agricultural sources within Canada and elsewhere;
- to facilitate the adoption of new economic opportunities based on innovative agriculturally-based products and knowledge;
- to expand and strengthen linkages with the global science and innovation community so that Canada's agriculture and food industry can benefit from the international pool of scientific knowledge and discoveries;
- to improve communications and increase collaboration and coordination across market, policy and scientific disciplines, research organizations and throughout the agri-food value chain;

- to address human resources requirements of the sector; and
- to better utilize intellectual property from publicly supported research.

The Government of Canada and provincial and territorial governments working with industry are considering a range of options on how best to meet these goals. One option is to build and strengthen communication links throughout the value chain. Another is for Canada to promote the establishment of science-based domestic and international standards. This would help capture new and premium markets around the world and maintain existing ones. Yet another option is to develop a national strategic approach to attract foreign investment in Canada's agricultural life sciences.

Conclusion

Putting the Canadian agriculture and agri-food sector first requires a national vision and a national partnership. Governments and industry moving forward collectively to integrate all elements of the proposed APF would enable us to brand Canada as the world leader in:

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Putting Canada First

AN ARCHITECTURE FOR AGRICULTURAL POLICY IN THE 21ST CENTURY

GOVERNMENTS WORKING WITH INDUSTRY CAN
CHANGE THE CURRENT RISK MANAGEMENT
APPROACH TO SUPPORT THE OBJECTIVES OF
GROWTH, DIVERSIFICATION AND INCREASED
VALUE-ADDED ACTIVITY IN CANADIAN
AGRICULTURE. IN PARTICULAR, PROGRAMS
NEED A MORE BUSINESSLIKE APPROACH TO
RISK MANAGEMENT—AN APPROACH THAT WOULD
FOCUS ON ENHANCING INCOME FROM THE
FARM THROUGH ACTIVE ENCOURAGEMENT
OF RISK MITIGATION, ADAPTATION AND
CONSIDERATION OF A FARM'S FUTURE POTENTIAL.

Business risk management

The Government of Canada and the provincial and territorial governments are working with the agriculture and agri-food industry and interested Canadians to develop an architecture for agricultural policy for the 21st century. The objective is for Canada to be the world leader in food safety, innovation and environmentally-responsible production.

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Canadian agriculture in the global context— Increased competition, lower commodity prices

Global agriculture has experienced a radical transformation in the latter half of the 20th century and the pace of change will quicken in the years to come. Technology and productivity improvements have led to a sustained, long-term decline in most commodity prices. In recent years, this price decline has been fuelled by liberalized trade, creating more intense competition, particularly from emerging low-cost producing countries. Lower demand for imports is also a factor, as traditional importing countries have used new developments in agriculture to move toward self-sufficiency. In addition, the United States and the European Union are heavily subsidizing the production of certain commodities—leading to further downward pressure on prices.

In this intensely competitive environment, the key to building a growing, successful agricultural sector for Canada lies in developing its capacity to produce innovative high-value food and non-food products that stand above the competition in the minds of consumers, whether for their unique attributes, their safety and quality, or the environmental responsibility with which they are produced. Risk management is a vital business tool to support this goal.

Canadian farmers have always faced a range of risks to their incomes, be they the forces of nature such as drought, hail and insects, or market-based forces such as price swings. And governments have long helped farmers deal with these risks through programs that have reduced the impact of farm income fluctuations. There is considerable debate, however, whether governments have designed their programs to effectively enhance growth in the current environment shaping the future of world agriculture.

The proposed Agricultural Policy Framework (APF) aims to put in place modern policies to help Canadian farmers face the issues of today and seize the opportunities they present. In this regard, in moving forward on new directions to secure the future success of the sector, Canadian Agriculture Ministers requested a review of current safety net programs.

“...Ministers agree to focus on making sure that all elements of safety net programming are working together, and that there is clarity about the purpose and performance of these programs in stabilizing farmers’ incomes.”

*Federal–Provincial–Territorial Ministers
Agriculture Agreement in Principle on an Action Plan
for an Agricultural Policy Framework, June 2008*

Government programs must keep pace with market realities...

While the review showed that, in aggregate, safety net programs have been relatively successful in minimizing the impact of fluctuations in farm income, it is questionable today how adequately they promote the growth, innovation and adaptation necessary to succeed in an ultra-competitive global marketplace.

Canada’s system of farm safety nets

- Crop Insurance—Participating producers will be protected for a yield per hectare based on the individual’s production history. If production falls below that yield, the producer will be eligible for an indemnity. Generally, the maximum coverage available is 80 per cent based on the historic average yield in an area or the individual farmer’s average yield, while up to 90-per-cent coverage is available for low risk crops or producers. Producers and governments share the cost of premiums, which are based on actuarial principles and vary by crop, region and individual loss experience.
- Net Income Stabilization Account (NISA)—To build up a reserve of liquid assets that can be drawn on in periods of financial difficulty, participating farmers can make after-tax deposits of up to three per cent of the first \$250,000 in net sales (gross farm sales less purchases of agricultural



commodities). These deposits are then matched up to \$7,500 on a one-for-one basis by governments. The producers' deposits also receive interest at a premium rate, paid by governments, on top of the market rate. Participants can withdraw funds to make up the difference whenever the gross margin from their farm business falls below the average of the past five years or if total family income from all sources falls below \$35,000.

- Canadian Farm Income Program (CFIP)—Producers whose gross margin for a year falls below 70 per cent of the historical average receive payments to bring their margins up to that level. The historical average is the greater of the average of the previous three years or three of the previous five years where the highest and lowest margins have been dropped. The program is funded entirely by government; participants pay no part of program costs.
- Companion Programs—These programs are developed and implemented within each province and include a wide range of initiatives to meet specific provincial priorities. These are funded jointly by the individual provinces and the Government of Canada.

... lead to improved performance ...

As part of the safety net review, an analysis was conducted of approximately 2,500 similar-sized grain and oilseed farms located in the same region of the country. This analysis shows clear differences over a five-year period (1996-2000) between the high-performing and low-performing farms in the effects of safety net programs. A similar pattern is found in many parts of Canada and in many segments of the sector.

While all the farms had roughly the same sales—around \$200,000 a year—the top 20 per cent consistently turned a profit without the assistance of safety nets, including in years where prices were depressed. The bottom 20 per cent consistently lost money—even in the years where prices were at their peak—and relied heavily on safety nets just to remain in business.

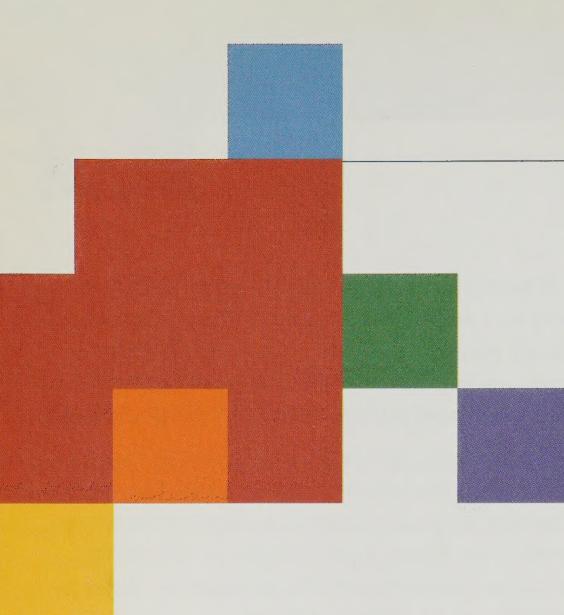
On average, safety net payments for the low performers were about three times higher than for the high performers—around \$36,000 a year. Yet these payments had no appreciable impact on the performance of these enterprises over the five years. If these farms are to be viable over the longer term, they need access to tools that will support their adaptation and innovation, not just government payments.

The more profitable farms, in contrast, continued to build much larger NISA balances—at around \$70,000 more than twice the average balance of the low performers.

... encourage active risk management and innovation ...

Governments designed the current safety net programs at different times over many years in response to varying pressures. This staggered development has led to a lack of cohesiveness and consistency between the programs and provides little incentive for producers to take decisions to more effectively manage their risks and enhance the income potential of their operations.

- Governments have created programming conditions that encourage selective use of programs in relation to what and how much is covered. For example, a farmer who believes that drought is a high risk one year can enroll in Crop Insurance that year and then withdraw the following year if the risk seems lower. Furthermore, most producers cover only a portion of their crops. While Crop Insurance can be an effective risk management tool, there are questions about industry perceptions of its usefulness.



producer who does not use existing private sector tools to mitigate market risk receives some protection from price declines by the existing safety net programs and benefits if prices rise.

... and provide comprehensive protection against disaster

Safety net programs are intended to provide farmers with the stability they need to get through short-term income fluctuations and maintain viable farming operations. However, there are a range of situations not covered by existing programs that can severely hurt a farming operation's sustainability.

- Governments have not established effective linkages among the various programs. For example, producers receive a payment under CFIP, whether they participated in Crop Insurance or have made use of their existing NISA balance. Thus, governments may be encouraging farmers to forgo Crop Insurance and to not withdraw money from NISA in times of need.
- NISA was established to help producers take a more active role in managing their risk, but the design of the program often works against this objective. For example, the three-per-cent interest premium on NISA balances—paid by governments to encourage savings to cover downturns—may now inadvertently be encouraging producers to leave funds in the account even in times of need. As a result, NISA balances—currently \$3.5 billion—remain high even when bad weather or other factors lead to declines in farm income.
- Safety nets could better encourage producers to be innovative and make use of private risk management tools, where these are available such as hedging and forward contracting. For example, a producer can “lock in” a price with a processor through a forward contract for their commodity, which protects against market price declines but forfeits the potential gains from a price increase. At the same time, a



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